

YO997-410

SMOOTHING CALIBRATION FILES TO IMPROVE REPRODUCTION OF
DIGITIZED IMAGES

ABSTRACT OF THE INVENTION

5 A method, system and computer article are presented for
smoothing an image calibration signal in order to smooth
a reproduced signal, and to identify the presence of any
remaining spikes or other significant deviations. The
invention recognizes the problems with raw calibration
10 signals, and posits that the calibration signals be
filtered by methods and systems described. For example,
calibration data may be smoothed by fitting the
calibration data to a parametric model employing either
linear or non-linear least squares. Alternate techniques
15 implement smoothing using optimal filtering. An aspect
of the invention is a method, computer product or article
of manufacture for improving an initial calibration
profile having an initial profile extent to form an
improved calibration profile. The initial profile may be
20 formed for a scanner employing a linear array CCD and
having a particular direction of motion. One method
includes forming an extended profile extent in the
direction of motion using quadratic extrapolation,
applying multirate filtering to the extended profile to
25 form a filtered profile, and truncating the filtered
profile to bring it to the initial profile extent to form
the improved calibration profile.

0573948-020101